

## REMARKS

Independent claim 12 with dependent claims 13–16 and 18-20 remain in the application.

Claims 12-16 and 20 remain rejected under 35 U.S.C. § 103(a) as being obvious over U.S. 3,475,137 (Kuo) in view of U.S. 3,656,548 (Donaldson). Claims 18 and 19 remain rejected under 35 U.S.C. § 103(a) as being obvious over Kuo, Donaldson and “Applicants’ Admitted Prior Art” (Figure 1 of the subject application).

“It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor.” Northern Telecom Inc. v. Datapoint Corp., 15 USPQ2d 1321, 1323 (Fed. Cir. 1990). “There must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.” Interconnect Planning Corp. v. Feil, 227 USPQ 543, 551 (Fed. Cir. 1985). The Office Action contends that “[w]hen a baffle as disclosed by Donaldson is employed, the peripheral contour reduces the material of the prior art baffle, which in turn increases the cross sectional area available for the shell side fluid to flow versus the prior art baffle, thereby advantageously reducing the pressure drop of the shell side fluid flow.” Presumably, “advantageously reducing the pressure drop of the shell side fluid flow” provides the incentive requirement set forth in Northern Telecom and the desirability requirement of Interconnect Planning, thereby supporting the Office Actions allegation that it would have been obvious to modifying the apparatus of Kuo to include the baffle of Donaldson.

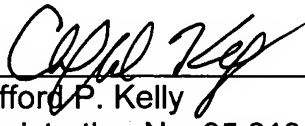
Assuming arguendo that modifying the Kuo apparatus to include the Donaldson baffle will reduce the pressure drop of the shell side fluid flow and that this effect would be desirable, the Applicants respectfully submit that it does not inherently follow that a person of ordinary skill in the art would choose to modify Kuo in this manner to achieve that specific effect. More specifically, the Applicants respectfully submit that a person of ordinary skill in the art would not choose to modify the Kuo apparatus to include the Donaldson baffle to reduce the pressure drop of the shell side fluid flow since there are other, superior less costly ways to accomplish this goal.

Specifically, the pressure drop of the shell side fluid flow of the Kuo heat exchanger may be reduced more easily and more effectively by simply displacing the edge of the baffle 35, 36, 37 toward the center of the shell. This is illustrated in the marked-up copy of Kuo Fig. 2 (Appendix A), where the original edge A of baffle 36 has been moved inward to edge B. Reducing the diameter of the baffle 35, 36, 37 in this manner increases the cross sectional area of the shell side fluid flow passage C thereby reducing the shell side fluid flow pressure drop. Revising the baffle 35, 36, 37 in this manner is easy to implement since implementation merely requires cutting a smaller size circle of material to form the baffle 35, 36, 37, whereas forming a circular baffle minus a "chordal segment" is more difficult. Further modifying the baffle 35, 36, 37 of Kuo to have the peripheral contour recited in the subject claims is even more difficult, further increasing the cost of production. In addition, the copy of Fig. 2 provided in Appendix A clearly shows that the positions of the heat exchange tubes 13 in Kuo precludes forming perimeter contour having an undulating shape as recited in claim 16. If a person of ordinary skill in the art wanted to modify the Kuo heat exchanger to reduce the shell side fluid flow pressure drop, they would modify the baffles 35, 36, 37 in the manner shown in the drawing of Appendix A rather than modify them in accordance with Donaldson since this goal may be achieved more efficiently by doing so.

The Office Action acknowledges that the Donaldson reference does not teach or suggest that the apparatus disclosed therein should be combined with the apparatus of Kuo. In addition, the Office Action does not contend that a teaching to combine the apparatus of Kuo and Donaldson may be found anywhere in the prior art. The Office Action does allege that it would have been obvious to combine the apparatus of Kuo and Donaldson "some teaching, suggestion, or motivation to do so [is] ... in the knowledge generally available to one of ordinary skill in the art." Since a person of ordinary skill in the art would have the knowledge that reducing the diameter of the baffle would more efficiently reduce the shell side fluid flow pressure drop in the Kuo apparatus than removing a chordal segment, they would have no incentive to modify Kuo in accordance with Donaldson. It certainly cannot be logically argued that it would be desirable to utilize the less efficient Donaldson baffle when a more efficient baffle is known.

In view of the proceeding remarks, prompt and favorable reconsideration is respectfully requested.

Respectfully submitted,  
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## **Appendix A**